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EPA Superfund
Record of Decision:

MARINE CORPS LOGISTICS BASE
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ALBANY, GA
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U. S. NAVY/MARINE CORPS INSTALLATION
RESTORATION PROGRAM

SUPERFUND
INTERIM RECORD OF DECISION
GROUNDWATER CONTAINMENT

MARINE CORPS LOGISTICS BASE, ALBANY, GEORGIA

OPERABLE UNIT ONE
POTENTIAL SOURCE OF CONTAMINATION THREE

SEPTEMBER 1994

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List of Acronyms

The following list of acronyms, and abbreviations are provided to assist in the review of this document.

ARAR	Applicable or Relevant and Appropriate Requirements
bls	Below Land Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CLEAN	Comprehensive Long-Term Environmental Action, Navy
DCE	1,2-Dichloroethene
DDD	
DDE	1,1-Dichloro-2 2-bis(4-chlorophenyl) ethylene
DDT	Dichlorodiphenyltrichloroethane
DNR	Department of Natural Resources
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EP	Extraction Procedure
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
gpm	gallons per minute
IAS	Initial Assessment Study
IR	Installation Restoration
IROD	Interim Record of Decision
MCL	Maximum Contaminant Level
MCLB	Marine Corps Logistics Base
MSCC	Marine Corps Supply Center
NAAQS	National Ambient Air Quality Standards
NCP	National Contingency Plan
NPL	National Priorities List
O & M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCBs	Polychlorinated Biphenyls
PCE	Perchloroethene, Tetrachloroethene
POTW	Publicly Owned Treatment Works
PPB	parts per billion
PSC	Potential Source of Contamination

RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
Rl/FS	Remedial Investigation/Feasibility Study
RI/RA	Remedial Investigation/Risk Assessment
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SOUTHDIV	Southern Division, Naval Facilities Engineering Command
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
TOC	Total organic Carbon
USEPA	United States Environmental Protection Agency
VOA	Volatiles
VOCs	Volatile Organic Compounds

DECLARATION FOR THE INTERIM ACTION
RECORD OF DECISION

SITE NAME AND ADDRESS

Marine Corps Logistics Base
Operable Unit One, Potential Source of Contamination Three
814 Radford Blvd
Albany, Georgia 31704-1128

STATEMENT OF PURPOSE

This Decision Document presents the selected interim remedial action to prevent migration of contaminated groundwater for Potential Source of Contamination Three (PSC 3) of the Marine Corps Logistics Base, developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), and to the extent practicable, the National Contingency Plan (NCP). This decision is based on the Administrative Record which is on file in the Dougherty County Public Library, and the Environmental Branch office, Facilities and Service Division, Building 5501, MCLB Albany, Georgia 31704.

This interim remedial action is taken to protect human health and the environment from any threat, while final remedial solutions are being developed.

Both USEPA and the State of Georgia concur on the selected remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Interim Record of Decision (IROD), may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The primary objective of this interim remedial action is to prevent further migration of contaminated groundwater at OUl, PSC 3. This interim remedial action is necessary since further migration of the groundwater may result in contamination of private wells located near OU1, PSC 3. This selected remedy will employ hydraulic containment to prevent further migration of the contaminated groundwater.

The selected remedy will include the following major components:

- Groundwater extraction to control migration of the contaminant plume.
- on-site treatment of the extracted groundwater using an air stripper unit for the purpose of achieving pretreatment levels prior to discharge to the local Publicly Owned Treatment Works (POTW).
- on-site treatment of vapor-phase emissions from the air stripper unit.
- discharge of the treated groundwater to the POTW

A final remedy, which addresses permanence and treatment to the maximum extent practicable, as required by CERCLA, as amended, the NCP, is being developed for this site and will be contained in a subsequent final Record of Decision for this operable unit.

DECLARATION

The interim remedial action is protective of human health and the environment, complies with federal and state applicable or relevant and appropriate requirements for this limited-scope action, and is cost-effective. Although this interim action is not intended to address fully the statutory mandate for permanence and treatment to the maximum extent practicable, this interim action does utilize treatment and thus is in furtherance of that statutory mandate. Although partially addressed in this remedy, the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element will be addressed by both this and the final response action. Subsequent actions are planned to address fully the principal threats posed by the conditions at this site. Remedial activities associated with this remedy which continue beyond the interim action phase will require a review be conducted to ensure that the remedy continues to provide adequate protection of human health and the environment within five years after commencement of the remedial action. This review is necessary because this remedy will result in hazardous substances remaining on site above health-based levels. Because this remedy is an interim action ROD, review of this site and of this remedy will be ongoing as the investigation and final remedial alternatives continue to be developed for the Operable Unit.

Signature	J.D. Stewart Major General Commanding General, MCLB Albary	Date

DECISION SUMMARY

1.0 SITE NAME, LOCATION AND DESCRIPTION

MCLB Albany is an active facility occupying approximately 3,500 acres 5 miles east-southeast of the City of Albany, Georgia. Land bordering MCLB Albany to the south, east and northeast is primarily agricultural or recreational open space. The land to the northwest and west of the Base is dominated by residential and commercial areas of eastern Albany.

Operable Unit one (OU1), Potential Source of Contamination (PSC) Three is located in the east-central portion of the Base, just inside the northern perimeter. Figure 1 shows the location of MCLB Albany and the approximate location of PSC 3. OU1, PSC 3 is the former location of a long-term landfill. This landfill is a 38-acre trench and area type landfill used for the disposal of solvents, paints, thinners, strippers, DDT, sludges, PCB's, garbage and paper from 1954 to 1988.

MCLB Albany currently serves as a military logistics center.

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2.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

MCLB Albany, as it is known today, was commissioned on March 1, 1952, as the Marine Corps Depot of Supplies. Construction of the base continued until early 1954, when the facility was sufficiently complete to assume supply support for Marines east of the Rocky Mountains and in the Atlantic Ocean area. The facility was renamed Marine Corps Supply Center (MCSC) on July 29, 1954.

Between 1954 and 1967, MCSC Albany controlled and managed supplies at storage and issue locations in the eastern half of the United States, the Atlantic Ocean, Caribbean Sea, and Mediterranean Sea. The base has also functioned as a Marine Corps Depot Maintenance Activity since February 1954.

MCSC Albany was redesignated Marine Corps Logistics Support Base, Atlantic, on April 1, 1976. During 1976, inventory control, financial management, procurement, and technical support functions performed at MCSA Philadelphia were relocated to Albany. On November 1, 1978, the facility was renamed Marine Corps Logistics Base, Albany. The full spectrum of logistics support functions required for the life cycle support of the Marine Corps Weapons Systems and Equipment is now performed at this base.

Commencing in 1985, three investigations were performed to assess and characterize PSCs identified at MCLB Albany. These investigations included the 1985 Initial Assessment Study (IAS3, the 1987 Confirmation Study, and the 1989 RCRA Facility Investigation (RFI). As a result of these investigations, MCLB Albany was placed in Group 7 (Hazard Ranking System score of 45.91 to 43.75) of the National Priority List (NPL) for Uncontrolled Hazardous Waste Sites. MCLB Albany was placed on the NPL in December 1989.

Initial Assessment Study (IAS)

An IAS was conducted by Envirodyne Engineers, Inc., at MCLB Albany in 1985 to identify and assess Potential Sources of Contamination (PSCs) posing a potential threat to human health or the environment due to contamination from past hazardous materials disposal practices. Eight PSCs were identified at MCLB Albany based on historical data, aerial photographs, field inspections, and personal interviews. All eight PSCs including PSC 1, East Disposal Area; PSC

2, Rubble Disposal Area; and PSC 3, LonG-term Landfill were evaluated to determine contamination characteristics, migration pathways, and potential receptors.

The primary pathways identified for migration of contaminants from the eight IAS PSCs include erosion, surface water runoff, and groundwater transport. The predominant topographic slope is toward the MCLB drainage canal, which originates on the MCLB Albany facility and flows beyond the western edge of MCLB to ultimately discharge to the Flint River. The predominant direction of regional groundwater flow is also toward the Flint River, which is located approximately 2.7 miles west of the base. Potential receptors identified include aquatic organisms in the receiving waters, predators and other animals relying on these areas for food and water, and humans using the Flint River for recreational purposes. The IAS concluded that six of the eight PSCs, including PSCs 1, 2, and 3, warranted further investigation under the NACIP Program to assess long-term impacts. The primary recommendation of the study was to conduct a confirmation study to confirm or disprove the existence of the suspected contamination and to quantify the extent of any existing problems.

Confirmation studies at these PSCs were recommended to determine: (1) whether a threat to human health or the environment existed, (2) the extent of contamination, and (3) the potential for contaminant migration.

Confirmation Study

A Confirmation Study was conducted by McClelland Engineers at the MCLB Albany facility in 1987 to verify the existence of contamination at nine PSCs: (a) the six PSCs recommended for further evaluation by the IAS, and (b) three additional PSCs identified as threats to human health or the environment (PSCs 9, 1O, and 11). Three of these PSCs now comprise OU1 (PSCs 1, 2, and 3).

The field investigations completed during the 1987 Confirmation Study at OU1, PSC 3, are summarized below:

A total of seven soil borings were drilled at PSC 3 to total depths ranging from 25 feet to 49 feet below land surface (bls). Four monitoring wells were installed in soil borings. No geophysical surveys were conducted, and no surface water samples were collected.

Four soil samples, two sediment samples, and one groundwater sample were collected for laboratory analyses. Laboratory analyses included acid and base-neutral extractables, VOAs, pesticides and PCBs, EP toxicity metals, total organic carbon (TOC), specific conductance, and pH.

Methylene chloride was detected in one soil and two sediment samples. Phthalate esters were detected in three soil samples. Lead was detected in two soil and two sediment samples. Chromium, arsenic, and mercury were detected in two sediment samples. Only one groundwater sample was collected for analysis and methylene chloride and bis(2-ethylhexyl) phthalate were detected in this sample. Methylene chloride and phthalate esters are common laboratory and sampling artifacts and EP toxicity metal concentrations are below Maximum Contaminant Levels (MCLs) as defined by 40 CFR 161.

Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI)

Subsequent to the 1987 Confirmation Study, the nine PSCs investigated were identified as Solid Waste Management Units (SWMUs) by the Georgia EPD in the Part B RCRA Permit for MCLB Albany. Terms of this permit required that an RFI be conducted at each of the PSCs to determine the nature and extent of releases, and the potential pathways of contaminant migration to the environment. Applied Engineering and Science, Inc., completed the RFI and submitted a final

report in 1989.

During the RFI a total of seven wells, ranging in depth from 30.41 feet to 110.53 feet bls, were installed at PSC 3. Four groundwater samples were collected for laboratory analyses. No geophysical surveys were conducted and no surface water or sediment samples were collected.

Laboratory analytical results for all samples except one were below quantitation limits or below MCLs for metal concentrations. Only VOAs (trans1,2-dichloroethene and trichloroethene) were detected in the groundwater sample from one well.

Remedial Investigation/Risk Assessment (RI/RA) Report

The conclusions of previous investigations indicated a need for additional data collection at 25 PSCs at MCLB Albany. Data were sufficient to indicate the requirement for a Remedial Response as described in the NPL to characterize the extent of contamination, assess releases, and develop responses. As a result, ABB Environmental Services, Inc. (ABB-ES) was contracted under the Comprehensive Long-Term Environmental Action, Navy (CLEAN) contract to prepare Remedial Investigation and Feasibility Study (RI/FS) Workplans, Site Screening Workplans, and associated planning documents for PSCs at MCLB Albany. The draft RI/RA for OU1 and OU2 was released in January 1994. The results of this investigation for OU1, PSC 3 are shown below.

Data obtained from the analyses of samples collected at OU1, PSC 3 indicate that significant contamination exists at this site. Contaminants of concern identified by the RA, in conjunction with the distribution of contamination observed at PSC 3, indicate that the major contaminants of concern are the following: the chlorinated compounds 1,2-dichloroethene (1,2-DCE), carbon tetrachloride, chloromethane, tetrachloroethene (PCE), and trichloroethene (TCE), as well as the pesticide 4,4'-DDT (and its degradation products 4,4'-DDD and 4,4'-DDE), and the PCB Aroclor-1260. Elevated concentrations of inorganic analyses were reported at PSC 3, but the distribution of the analyses is medium specific (e.g. high levels of cobalt were detected in sludge samples but not in subsurface soil samples). Pesticides and PCBs are contaminants of concern in the sludge, sediment, and the surface water; inorganic analyses have also been identified as contaminants of concern in the surface soil, sludge, sediment, surface water, and groundwater.

4,4'DDT and its degradation products were detected throughout the surface soil samples collected at PSC 3. The detected concentrations in the surface soil samples was generally within an order of magnitude of background. Because of the widespread use of these pesticides in the past, these concentrations are attributable to background. However, one sample contained very high concentrations of DDT and DDE. This sample was collected from the center of the apparent former disposal area. The PCB Aroclor-1260 was also detected in several surface soil samples collected from different locations around PSC 3. Pesticides and PCBs were also detected in subsurface soil and sludge samples collected at PSC 3. Subsurface soil samples containing high levels of dichlorodiphenylethanes (DDT, DDD, or DDE or Aroclor-1260) were collected from various locations throughout PSC 3. The locations that show the highest concentrations correlate with aerial photographs showing activity in the area since the late 1950's. Neither pesticides nor PCBs were detected in PSC 3 groundwater samples. Two areas of groundwater contamination have been identified. The groundwater samples collected from the western portion of PSC 3 contain high levels of chlorinated organics (carbon tetrachloride, TCE, and PCE). This contamination is apparently from a source farther to the west. The groundwater samples collected from the northeastern portion of PSC 3 also contain high levels of chlorinated organics (1,2-DCE, TCE, PCE, and carbon tetrachloride). The source of this contamination has not been determined. Acquisition of additional information is currently ongoing and data will be summarized during the feasibility study.

3.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Plan for the Interim Corrective Measure at Operable Unit One, Potential Source of Contamination Three was released to the public on July 12, 1994. This document was made available to the public in the Information Repository located at the Dougherty County Public Library, and in the Administrative Record located at the Environmental Branch Office, Bldg 5501, Marine Corps Logistics Base, Albany, Georgia 31704-1128. The public comment period for the Proposed Interim Corrective Measure was July 12 - August 25, 1994. The public notice of the Proposed Interim Corrective Measure was Published in the Albany Herald and the Atlanta Constitution on both July 12, 1994 and July 24, 1994. A public meeting was held on July 26, 1994 in Albany. At this meeting, representatives from USEPA, Georgia Environmental Protection Division (GEPD), Naval Facilities Engineering Command, Southern Division (SOUTHDIV), and MCLB Albany were available to answer questions about PSC 3 and the interim corrective measure under consideration. No written or verbal comments were received at the public meeting or during the public comment period. However, a Responsiveness Summary is included as part of the Interim Record of Decision.

The Proposed Plan identified the preferred interim corrective measure at PSC 3 as Alternative No. 2. Alternative No. 2 is described as follows: Installation of groundwater recovery wells, installation of a shallow tray air stripper for treatment of contaminated groundwater, installation of vapor-phase carbon units for off-gas treatment, and discharge of treated groundwater to the City of Albany's Publicly Owned Treatment Works. Because no written or verbal comments were received, USEPA, GEPD, SOUTHDIV, and MCLB determined that no significant changes to the Proposed Plan's preferred interim corrective measure were necessary.

4.0 SCOPE AND ROLE OF REMEDIAL ACTION AT POTENTIAL SOURCE OF CONTAMINATION THREE

The response action presented in this document is an Interim Remedial Action since it represents only one phase of the comprehensive investigation and remediation program at OU1, PSC 3. This interim action is limited to hydraulic containment of contaminated groundwater at OU1, PSC 3. A final remedy, which addresses permanence and treatment to the maximum extent practicable, as required by CERCLA, as amended, and the NCP is being developed and will be contained in a subsequent final Record of Decision for this operable unit.

5.0 SUMMARY OF SITE CHARACTERISTICS

5.1 GEOLOGY

MCLB Albany is located in the Dougherty Plain district, which is part of the Coastal Plain physiographic province. The Albany regional geology is characterized by layers of sand, clay, sandstone, dolomite, and limestone that dip gently and progressively thicken to the southeast. These sediments extend to a depth of at least 5,000 feet below land surface (bls).

The sediments of interest at MCLB Albany (sediments that affect the hydrology of the Upper Floridan aquifer) are of late middle Eocene age and younger including, in descending order, the undiferentiated overburden of Quaternary age, the Suwannee Limestone, the Ocala Limestone, the Clinchfield Sand, and the Lisbon Formation. The location and geological section of the Albany area are presented in Figure 2.

5.2 HYDROGEOLOGY

There are two principal hydrostratigraphic units of interest at the MCLB: the undifferentiated Quaternary overburden deposits and the underlying Upper Floridan aquifer (Ocala Limestone).

Within the overburden, most sand or clay layers are discontinuous; however, a thick clay zone apparently persists in the lower half of the overburden throughout the MCLB Albany area. This clay zone, ranging in thickness from 10 to 29 feet, serves to cause intermittent perched groundwater conditions in the overburden, decreasing the amount of groundwater recharge to the Upper Floridan aquifer from infiltration of precipitation, and controlling the rate of infiltration of chemical contaminants. Maximum annual water-level fluctuations may be in the range of 10 to 15 feet, based on observed differences in water levels measured at different times of the year over the last 5 years. Water levels in area wells are highest during February through April and at a minimum during November through January, when the overburden wells are commonly dry of water. Hydraulic properties of the overburden are controlled primarily by the amount of sand and clay present.

The Upper Floridan aquifer, consisting primarily of the Ocala Limestone, ranges from about 200 to 275 feet thick in the area of the MCLB. The aquifer is confined above by the clayey overburden and below by a low-permeability layer in the Lisbon Formation. Large quantities of water are stored and transmitted within the aquifer and the Upper Floridan has recently been studied and judged to be favorable for large-scale water withdrawal. The aquifer is regionally unconfined, semi-confined, or confined by the overlying soils, and the rate of recharge depends primarily on the vertical hydraulic conductivity of the overburden. The rate of mean annual recharge to aquifer is reported to be on the order of 6 to 14 inches per year (in/year). The Upper Floridan aquifer is divided into an upper zone (with greater density) and a lower zone (with greater permeability due to solution-enlarged joints, bedding planes, and fractures). These solution cavities can produce transmissivity values as high as 178,000 square feet per day (ft2/day).

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Published studies of the Upper Floridan aquifer indicate that the potentiometric surface slopes westerly to southwesterly in the MCLB Albany area (Figure 3). The aquifer discharges water to the Flint River and local streams where the streams have incised into the aquifer or where the potentiometric surface exceeds the surface water elevation. The relationship can be reversed locally during dry periods when the potentiometric surface drops and streams discharge to the aquifer.

5.3 ECOLOGY

The majority of forested land in the vicinity of the Base is vegetated with longleaf pine flatwoods, the most extensive floral community in the southern coastal plain. Also known as pine flatwoods, pine flats, low pinelands, or pine barrens, this low flat woodland habitat occurs transitionally between upslope xeric sandhill communities and downslope shrub-dominated evergreen wetlands. Pine flatwoods occur throughout Florida, and northward into Georgia, South Carolina, and North Carolina.

The high level of herbaceous productivity in the pine flatwood habitat frequently supports a rich invertebrate faunal community. This invertebrate community often supports a number of insectivorous vertebrates, including 20 to 30 species of reptiles and amphibians. A number of small mammals inhabit the flatwood community although no mammal is exclusive to this habitat.

Depending upon the vegetative association, pine flatwoods provide habitat for a diverse array of avifauna, including insectivorous gleaners of pine needles and bark flycatchers, a seed eating assemblage, and nocturnal and diurnal aerial predators. The red-cockaded woodpecker (Picoides borealis), a federally endangered species, occurs almost exclusively within this pine flatwoods habitat. Although MCLB Albany is a potential habitat for this species due to the presence of

pine flatwoods, the red-cockaded woodpecker is not found at this installation.

The presence of two rare and threatened species has been confirmed at this facility. The American alligator (Alligator mississippiensis), now in a threatened status, has been documented in wetland habitats at the Base; this semi-aquatic species is ubiquitous throughout the southeast. Bachman's Sparrow (Aimophila aestivalis), a State and federally listed rare species, is also a possible resident of the dry open pine forests at MCLB Albany; this large, secretive sparrow is a year-round resident of southern Georgia.

5.4 NATURE AND EXTENT OF CONTAMINANTS

The nature, extent, and concentration of hazardous substance contamination at OU 1, PSC 3 was studied during field investigations performed from March 1992 to the present. The following summarizes the major observations from these investigations.

5.4.1 Contaminants Detected at PSC 3

Hazardous substances detected at PSC 3, and the media affected are listed in Table 1.

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Table 1
Contaminants Exceeding Screening Criteria
Potential Source of Contamination (PSC) 3
MCLB Albany

Analyte	Surface Soil	Subsurface Soil	Sludge	Sediment	Surface Water	Groundwater
Volatiles						
Carbon Tetrachloride						X
Chloromethane						X
1,2-Dichloroethene (Total)						X
Tetrachloroethene						X
Trichloroethane						X
1,1,1-Trichloro-ethane						X
1,1-Dichloroethane						X
1,1-Dichloroethene						X
Carbon Disulfide						X
Chlorofonm						X
Methylene Chloride		X				
Semivolatiles						
Benzo (a) anthracene				X		
Benzo (a) pyrene				X		
Benzo (b) fluoranthene				X		
Benzo (k) fluoranthene				X		
Chrysene				X		
Fluoranthene				X		
Phenanthrene				X		
Phenol						X
Pyrene				X		

Table 1, continued

Analyte	Surface Soil	Subsurface Soil	Sludge	Sediment	Surface Water	Groundwater
Pesticides and PCBs						
4,4'-DDD		X		X		
4,4'-DDE	X	X		X		
4,4'DDT	X	X		X	X	
Arochlor-1260	X	X		X		
Dieldrin		X		X		
alpha-Chlordane	X	X		X		
gamma-Chlordane	X	X		X		
Inorganics						
Aluminum	X	X			X	X
Antimony	X	X		X	X	X
Arsenic	X	X		X	X	X
Barium	X	X		X	X	X
Beryllium	X	X		X	X	X
Cadmium	X	X		X	X	X
Chromium	X	X		X	X	X
Cobalt	X	X		X	X	X
Copper	X	X		X	X	X
Cyanide	X	X		X		X
Lead		X		X	X	X
Manganese	X	X		X	X	X
Mercury	X	X		X		X
Nickel	X	X		X	X	X
Selenium	X	X		X	X	X
Silver	X	X				X
Thallium		X		X		
Vanadium	X	X		X	X	X
Zinc	X	X		X	X	X

To provide a focus for the Interim Remedial Action for OU1, PSC 3, a summary of the number of samples with detections and the concentrations found in groundwater are presented in Table 2 for each contaminant at OU1, PSC 3.

Table 2
Analytes Detected in Groundwater
Potential Source of contamination (PSC)3
MCLB Albany

Analyte	No. of Samples in which the Analyte is Detected/Total No. of Samples	Range of Detected Concentrations, including monitoring wells located on the northern perimeter of PSC 3 (in ppb - parts perbillion)
Volatiles		
Carbon Tetrachloride	4/20	2
Chloromethane	3/20	5 to 6
1,2-Dichloroethene (Total)	8/20	32 to 860
Tetrachloroethene	9/20	5 to 170
Trichloroethene	10/20	13 to 210
Acetone	1/20	440
Carbon Disulfide	1/20	2
Chloroform	2/20	12 to 39
Phenol	1/19	2
Semivolatiles		
Di-n-butyphthalate	1/19	1
Di-n-octylphthalate	2/19	2 to 8
bis 2-Ethylhexylphthalate	8/19	1 to 5
Inorganics		
Aluminum	19/19	132 to 12500
Antimony	4/19	13 to 18
Arsenic	4/19	1 to 4
Barium	19/19	6 to 200
Beryllium	3/19	1 to 3
Cadmium	4/19	1 to 9
Calcium	19/19	15200 to 80400
Chromium	9/19	5 to 23
Cobalt	3/19	7 to 18
Copper	17/19	1 to 19
Cyanide	1/19	11
Iron	19/19	20 to 11800

Table 2, continued

Analyte	No. of Samples in which the Analyte is Detected/Total No. of Samples	Range of Detected Concentrations, including monitoring wells located on the northern perimeter of PSC 3 (in ppb - parts per billion)
Lead	15/19	1 to 42
Magnesium	19/19	197 to 3900
Manganese	19/19	3 to 1500
Mercury	6/19	0.7 to 10
Nickel	4/19	8 to 20
Potassium	19/19	602 to 37900
Selenium	9/19	1 to 2
Sodium	19/19	1680 to 24000
Vanadium	16/19	3 to 66
Zinc	18/19	15 to 75

5.4.2 Contaminant Sources

PSC 3 is a former long-term landfill. This landfill is an approximate 38-acre trench and area-type landfill used for the disposal of solvents, paints, thinners, strippers, DDT, sludges, PCB's, garbage and paper from 1954 to 1988. The landfill is located approximately 2,800 feet due west of the western edge of the Indian Lake Refuge Area at North Shaw Road. Landfill operations included burning of disposal materials until the early 1970's. As a result, contamination is present in subsurface soil and groundwater.

6.0 SUMMARY OF SITE RISKS

The findings of an assessment of potential risks to human health and the environment as a result of the groundwater contamination migrating offsite was reported in the Draft Remedial Investigation/Risk Assessment (RI/RA) for Operable Units One and Two (OU1 and OU2)(January 1994). This document was released prior to the completion of the investigation of offsite monitoring wells. However, the domestic use of off-site groundwater is a potential future exposure pathway used in RA calculations.

The results of the Draft RI/RA Report for OUI and OU2 suggested potential adverse effects from domestic use of groundwater based on the estimated excess lifetime cancer risk and hazard indices. Trichloroethene, Carbon Tetrachloride, 1,2-Dichloroethene, and Tetrachloroethene from monitoring wells located at the northern boundary of OU1, PSC 3 created a potential increased lifetime cancer risk for the ingestion pathway. The concentrations of these Contaminants of Concern for groundwater within the area of the planned interim action are shown in Table 3, as compared to the Maximum Contaminant Level (MCLs) cited in the Safe Drinking Water Act (SDWA).

Table 3
Contaminants of Potential Concern in Groundwater
Potential Source of Contamination (PSC) 3
MCLB Albany

Analyte	Concentration in area of planned interim action (in ppb - parts per billion)	Maximum Contaminant Level (MCL) for safe drinking water (in ppb)
Trichloroethene	68	5
1,2-Dichloroethene	310	70
Tetrachloroethene	170	5
Carbon Tetrachloride	2	5
Chloromethane	Not detected	5

The draft RI/RA report found that the critical exposure pathway is related to the offsite migration of on-site contaminant sources in groundwater. Based on the preliminary results of the draft RI/RA report, MCLB Albany, Georgia EPD, and EPA have decided that there is sufficient potential risk to the public and environment to warrant an interim action. The principal goal is to decrease the risk to nearby private water well users of exposure to contaminated groundwater. This will be done by mitigating the spread of the high concentration portion of the groundwater plume at OU1, PSC 3 and retarding the migration of the contaminants emanating from the source areas.

7.0 DESCRIPTION OF ALTERNATIVES

Three alternatives were considered for addressing the contamination in the groundwater plume at OU1, PSC 3. The first alternative would be to take no action at this time and simply allow the groundwater to continue to migrate offsite. The second and third alternatives would provide for an interim action which will provide a hydraulic containment system through groundwater extraction. Both the second and third alternatives will initiate containment of both the sources and high concentration areas of the groundwater plume.

The following is a description of the altematives evaluated for PSC 3:

7.1 Alternative 1 - No Action

Pursuant to Section 300.430(e)(6) of the NCP, MCLB Albany is required to consider a no action alternative. This alternative is useful as a baseline for comparison between potential alternatives. Under this alternative, no further action would be taken with regard to the contaminated groundwater.

7.2 Alternative 2 -- Extraction and Treatment with Liquid Phase Carbon

This alternative involves the installation of an extraction and treatment system to initiate hydraulic containment of the groundwater plume. This alternative will include the following activities:

1) The contaminated groundwater will be extracted at a minimum of two (2) locations along the northern boundary of OU1, PSC 3. The contaminated groundwater will be pumped at a rate of approximately 20 gallons per minute (gpm) to reduce further migration of contamination. This pumping rate may be modified during operation to optimize hydraulic containment by adjusting flow from the extraction wells.

2) The extracted groundwater will be collected and piped to the treatment system, which will consist of two liquid-phase carbon adsorbers in series.

3) The treated water will be discharged via the sanitary sewer to the City of Albany Publicly owned Treatment Works (POTW).

4) The remedy does not address source remediation, however; the remedy will address migration of contaminated groundwater from source areas.

Approximately three (3) months will be required to complete the design and construction for this alternative. Alternative 2 (listed as Alternative No. 1 in the Proposed Plan) satisfies all identified ARARs for the interim action cited within this document.

7.3 Alternative 3-- Extraction and Treatment with Air Stripping

This alternative involves the installation of an extraction and treatment system to initiate hydraulic containment of the groundwater plume. This alternative will include the following activities:

1) The contaminated groundwater will be extracted at a minimum of two (2) locations along the northern boundary of OU1, PSC 3. The contaminated groundwater will be pumped at a rate of approximately 20 gallons per minute (gpm) to reduce further migration of contamination. This pumping rate may be modified during operation to optimize hydraulic containment by adjusting flow from the extraction wells and to support subsequent actions.

2) The extracted groundwater will be collected and piped to the treatment system, which will consist of a shallow tray air stripping unit followed by vapor-phase carbon units for treatment of off-gas emissions.

3) The treated water will be discharged via the sanitary sewer to the City of Albany Publicly owned Treatment Works (POTW).

4) The remedy does not address source remediation, however; the remedy will address migration of contaminated groundwater from source areas.

Approximately three (3) months will be required to complete the design and construction for this alternative. Alternative 3 (listed as Alternative No. 2 in the Proposed Plan) satisfies all identified ARARs for the interim action cited within this document.

8.0 SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES

This section provides the basis for determining which alternative (i) meets the threshold criteria of overall protection of human health and the environment, State approval, and compliance with ARARs, and (ii) provides the best balance between effectiveness and reduction of toxicity, mobility, or volume through treatment, implementability, and cost, and (iii) satisfies community acceptance.

Federal law requires nine criteria be used for evaluating the expected performance of remedial actions. The nine criteria are introduced below and the present proposal is evaluated on the basis of these criteria.

1. Overall protection of human health and the environment. Requires that the alternative adequately protect human health and the environment, in both the short and long-term. Protection must be demonstrated by the elimination, reduction, or control of unacceptable risks.

2. Compliance with applicable or relevant and appropriate requirements (ARARs). The alternatives must be assessed to determine if they attain compliance with applicable or relevant and appropriate requirements of both state and federal law.

3. Long-term effectiveness and permanence. Focuses on the magnitude and nature of the risks associated with untreated waste and/or treatment residuals. This criterion includes consideration of the adequacy and reliability of any associated engineering controls, such as monitoring and maintenance requirements.

4. Reduction of contaminant toxicity, mobility, or volume through treatment. The degree to which the alternative employs treatment to reduce the toxicity, mobility, or volume of the contamination.

5. Short-term effectiveness. The effect of implementing the alternative relative to the

potential risks to the general public, potential threat to workers and the time required until protection is achieved.

6. Implementability. Potential difficulties associated with implementing the alternative. This may include: the technical feasibility, administrative feasibility, and the availability of services and materials.

7. Cost. The costs associated with the alternatives. These include the capital cost, annual operation and maintenance and the combined net present value.

8. Federal/State acceptance. The incorporation of any formal comments by the Georgia Environmental Protection Division to the interim action.

9. Community acceptance. The consideration of any formal comments by the community to the Proposed Plan for the interim action.

The criteria listed above are categorized into three groups. The first, second, and eighth categories are threshold criteria. The chosen final alternative must meet the threshold criteria to be eligible for selection. The five primary balancing criteria include criterion three through seven. The last criterion is termed the modifying criterion. The modifying criterion was evaluated following issuance of the Proposed Plan for public review and comment.

An analysis was performed on the alternatives using the nine evaluation criteria in order to select a site remedy. Table 4 presents a summary of this detailed analysis.

A brief summary of each alternative's strengths and weaknesses with respect to the evaluation criteria follows:

Overall Protection of Human Health and the Environment

Alternative 1 does not provide protection of human health or the environment. Alternatives 2 and 3 are intended to serve as an interim action which will provide protection to both the public and the environment by limiting migration of the contaminated groundwater plume.

Compliance with ARARs

Table 5 lists the ARARs for this interim remedial action. This table only lists those ARARs pertinent to the limited scope of this interim remedial action. Therefore, the ARARs listed in Table 5 pertain to the extraction and treatment system operations and not to any ARARs associated with aquifer remediation goals. Such ARARs will be addressed in subsequent remedial actions.

Both extraction and treatment alternatives support the health-based Federal and State ARARs through the treatment of the contaminants to regulatory standards. Both altematives will also reduce the migration of contaminants and potential future exposure of the public.

Long-term Effectiveness and Permanence

The no action alternative could cause potential health and environmental impacts to occur through a future exposure scenario. The extraction and treatment systems are intended as an interim action until sufficient information can be accumulated to formulate the final solution for OU1, PSC 3. The effectiveness and efficiency of the system will be evaluated for potential final actions.

Table 4
Summary of Alternatives Evaluation
Potential Source of Contamination (PSC) 3
MCLB Albany

Criterion	Alternative 1 No action	Alternative 2 Liquid-Phase Carbon	Alternative 3 Air Stripping Unit
Overall Protection of Human Health and the Environment	No reduction in potential risks.	Protective by limiting migration of the contaminant plume.	Protective by limiting migration of the contaminant plume.
Compliance with ARARs	Does not meet ARARs	Will comply with ARARs.	Will comply with ARARs.
Long-Term Effectiveness and Permanence	Could cause potential health and environmental impacts to occur through a future exposure scenario.	Intended as an interim action until sufficient information can be accumulated to formulate the final solution for this OU.	Intended as an interim action until sufficient information can be accumulated to formulate the final solution for this OU.
Reduction of Toxicity, Mobility, or Volume	Natural attenuation may reduce contaminant levels, but is unpredictable.	Reduces the mobility of the groundwater plume.	Reduces the mobility of the groundwater plume.
Shon-Term Effectiveness	No increased risk to community and no risk to workers because no remedial action is implemented.	No threat to nearby communities due to operation and maintenance of system. Work completed within 3 months.	No threat to nearby communities due to operation and maintenance of system. Work completed within 3 months.
Implementability	Nothing to implement.	Proven technology with equipment readily available.	Proven technology with equipment readily available.
Costs Capital	$0	$135,000	$142,000
O&M	$0	$78,000	$51,000
Federal/State Acceptance	Federal/State will likely not prefer this alternative.	Federal/State favors treatment over no action.	Federal/State favors treatment over no action.
Community Acceptance	No public comments received during public comment period.	No public comments received during public comment period.	No public comments received during public comment period.

Table 5
Summary of Applicable or Relevant and Appropriate Requirements to be Considered
Potential Source of Contamination (PSC) 3
MCLB Albany

Actions	Standard, requirements	Description	Comments
Chemical-Specific			
Treatment of contaminated groundwater	Safe Drinking Water Act (SDWA) 40 CFR 141.	Provides Maximum Contaminant Levels (MCLs).	Final or proposed MCLs exist for groundwater contaminants at MCLB Albany.
	Safe Drinking Water Act O.C.G.A. § 12-5-170 et seq. and Rules, Chapter 391-3-5.	Establishes MCLs which are health-based standards for public water systems.	
	Georgia Water Quality Control Act O.C.G.A. § 12-5-2O et seq. and Rules, Chapter 391-3-6.	Establishes treatment standards for public water systems.	
Treatment of off gas emissions	Clean Air Act, National Ambient Air Quality Standards (NAAQS) 40 CFR 5O.		NAAQS for particulate matter may be considered during treatment.
	Air Quality Act of 1978 O.C.G.A. § 12-9-1 et seq. and Rules, Chapter 391-3-1.	Establishes standards for ambient air quality to protect public health and welfare.	

Table 5, continued

Actions	Standard, requirements	Description	Comments
Location-Specific			
Protection of the environment	10 CFR 1021, 4O CFR 1500-1508	Protection of the environment. Prepare an Environmental Impact Statement (EIS) or Environmental Assessment (EA) or Categorical Exclusion.	Any federal action that will have a significant impact on the quality of the environment.
	Georgia Comprehensive Solid Waste Management Act, O.C.G.A. § 12-8-20 et seq. and Rules, Chapter 391-3-4.	Establishes facility location standards.	
	Endangered Wildlife and Wildflower Preservation Act of 1973 O.C.G.A. § 12-6-172 et seq. and Rules, Chapter 391-10.	Critical habitat upon which endangered or threatened species depends.	
Action-Specific			
Remedial action	Occupation Safety and Health Administration (OSHA) 29 CFR 1910, 1926.		OSHA requirements will be complied with during implementation of onsite remedial alternatives.
	Georgia Hazardous Site Response Act O.C.G.A. § 12-8-90 et seq.	Requires corrective action for releases of hazardous wastes, constituents, and substances.	

Table 5, continued

Actions	Standard, requirements	Description	Comments
Remedial action (continued)	Georgia Hazardous Waste Management Act O.C.G.A. § 12-8-60 et seq. and Rules, Chapter 391-3-11.	Establishes minimum state standards which define the acceptable management of hazardous waste for owners and operators of facilities which treat, store, or dispose of hazardous wastes in the State of Georgia.	
Surface Water Control	40 CFR 122	Implement good site planning and best management practices to control stormwater discharges	Construction activities at industrial sites involving disturbance of land.
Container Storage	40 CFR 264	Containers of hazardous waste must be maintained in good condition, compatible with hazardous waste to be stored, closed duirng storage, and inspected weekly.	Storage of RCRA hazardous waste not meeting small quantity generator criteria held for a temporary period before treatment, disposal, or storage elsewhere, in a container.
	Georgia Hazardous Waste Management Act O.C.G.A. § 12-8-60 ef seq. and Rules, Chapter 391-3-11.	Establishes minimum state standards which define the acceptable management of hazardous waste for owners and operators of facilities which treat, store, or dispose of hazardous wastes in the State of Georgia.	

Table 5, continued

Actions	Standard, requirements	Description	Comments
Transportation of treatment residuals	40 CFR 262	Manifest requirements.	Treatment residuals which exhibit a RCRA hazardous waste characteristic as defined by Subpart C of 40 CFR 261 and offsite transportation occurs.
	49 CFR 172, 173, 178, and 179	Waste must be packaged and transported in accordance with DOT regulations.	The treatment residuals, if considered a RCRA hazardous waste, must be transported in accordance with DOT regulations.
Discharge of treated groundwater	Georgia Water Quality Control Act O.C.G.A. § 12-5-20 and Rules, Chapter 391-3-6	Pre-treatment standards and permit requirements for Publicly owned Treatment Works, criteria and standards for injection wells, and authorize DNR to issue discharge permits.	

Reduction of Toxicity, Mobility, and Volume

Both extraction and treatment alternatives reduce the migration of the contaminated groundwater and treat the extracted groundwater prior to discharge. Both alternatives also reduce the volume of contaminants presently in the groundwater to support the overall cleanup of the site.

Short-term Effectiveness

Short-term construction effects related to dust and noise generation are expected for both treatment alternatives. The public and the environment will not be exposed to any risks during the construction or operation of the treatment systems. Both alternatives are designed to eliminate the accidental release of contaminated groundwater during the treatment process. The off-gas from the air stripper will be treated prior to its release to the atmosphere and the treated groundwater will be discharged to the sanitary sewer. The treatment building will also be surrounded by a separate security fence to limit access to the area.

Implementability

Both treatment systems are proven technologies with equipment readily available from regional suppliers. Due to the small size of the two systems, minimal land and construction effort will be required. The air stripping technology is well proven and flexible to readily adapt to potentially changing site conditions. The Liquid-Phase Carbon treatment alternative, however, will potentially be more labor intensive and be less flexible to changing site conditions.

Costs

Costs for the construction and operation of the air stripping alternative are slightly less than the Liquid-Phase Carbon treatment system. This is due to the reduced operation and maintenance requirements of this alternative and the easy adjustment and modification of the system for changing site conditions.

Federal/State Approval

The Technical Memorandum, Proposed Plan, and Draft IROD were issued for review and comments by the Environmental Protection Agency and the Georgia Environmental Protection Division and the EPA.

Community Acceptance

No comments were received during the public comment period. Community participation and relations efforts are summarized in the Responsiveness Summary.

9.0 SELECTED REMEDY

The selected remedy for the interim action of the groundwater plume at OU1, PSC 3, is Alternative 3. Although alternatives 2 and 3 are both proven technologies which will protect human health and the environment, alternative 3 was chosen as the selected interim remedial action because of its lower total costs. The principle objectives of this action are to initiate a first phase remedial action, which in combination with future remedial actions for groundwater, will ultimately result in achieving the final remedial goals for the site. The groundwater will be extracted at a minimum of two locations and pumped to a treatment unit. The contaminated groundwater will be pumped at a rate of approximately 20 gallons per minute (gpm). Data gathered during the operation will be used to adjust the pumping rate in order to optimize hydraulic containment by adjusting flow from the extraction wells.

The extracted groundwater will be collected and piped to the treatment system consisting of a shallow tray air stripping unit, followed by vapor-phase carbon units. The treated water will be discharged via the sanitary sewer to the City of Albany's Publicly Owned Treatment Works (POTW).

Air stripping is a process by which water containing VOCs is brought into contact with air. The stripper will be designed to reduce the concentrations of chlorinated organics in the water. The effectiveness of this technology is enhanced by exposing an increased surface area of contaminated water to the airstream. Conventional air strippers spray water into the top of the column and allow the water to trickle over the packing. Air is blown into the bottom of the tower and contacts the water in a counter-current flow. All off-gases generated by the air stripping unit will be treated with vapor-phase carbon units prior to venting to the atmosphere.

Operation of the treatment system will require the sampling of influent groundwater from the two extraction wells and effluent of the treatment system on a regularly scheduled basis. Samples of the treated effluent will be split with the City of Albany. Water level measurements will also be taken at specified monitoring points during this sampling period. Formal discussions were held between MCLB Albany and the City of Albany on May 23 and 24, 1994. Based on these discussions, the City of Albany Public Works Department has approved the discharge of the treated groundwater to the POTW. Table 6 presents the estimated influent concentrations of the untreated groundwater into the system and water quality concentrations required for discharge to the POTW.

Table 6
Estimated Influent Concentrations to on-site Pretreatment System and Discharge Criteria (after pretreatment) for Contaminants of Potential Concern Potential Source of Contamination (PSC)3 MCLB Albany

Contaminants of Potential Concern (based on Draft Remedial Investigation/Risk Assessment Report of Jan 94)	Range of Estimated Influent Concentrations to on-site Pretreatment System based on a total flow rate of 20 gallons per minute (gpm) (in ppb-parts per billion)	City of Albany Publicly Owned Treatment Works (POTW) Influent Requirements - after pretreatment (in ppb-parts per billion)
Carbon Tetrachloride	1	100
Chloromethane	3	100
1,2-Dichloroethene (Total)	309 to 419	20
Tetrachloroethene	52 to 70	20
Trichloroethene	54 to 70	20

System start-up will run the first three months of operation and will include setting the flow rates and making adjustments to the treatment system operation and off-gas controls.

Water level measurements and collection and analyses of groundwater samples will be conducted every day for the first three days of operation and then every other day for the remainder of the first week. Similar measurements will be taken once a week for the remainder of the first month's operation and then once per month through the end of the third month of operation. Water level measurements and groundwater sampling will then be conducted on a quarterly basis for the remainder of the system operation.

Groundwater samples will be collected and analyzed from the influent header prior to the treatment system and the effluent pipe prior to sanitary sewer discharge. These samples will be analyzed for VOCs using EPA Method 8240. Analytical results will be summarized into a quarterly report for submittal to the USEPA Region IV, Georgia EPD, and the City of Albany.

Water level measurements will be taken in conjunction with the groundwater sampling events to monitor the capture zone of the treatment system. Maps of the potentiometric surface will be included within each of the quarterly monitoring reports.

The estimated costs of the selected Interim Remedial Action is presented in Table 7.

Table 7
Estimated Capital and Operations & Maintenance (O&M) Costs
for the Selected Interim Remedial Action
Potential Source of Contamination (PSC) 3
MCLB Albany

Alternative	Estimated Capital Cost	Estimated O&M Cost (Total)	Total Estimated Cost
Air Stripping	$142,000	$51,000	$193,000

10.0 STATUTORY DETERMINATIONS

MCLB Albany, USEPA, and Georgia EPD concur that the extraction and treatment system using an air stripper unit will satisfy the CERCLA § 121(b) statutory requirements of: providing protection of human health and the environment, attaining applicable or relevant and appropriate requirements directly associated with this action, being cost-effective, utilization of permanent solutions and alternative treatment technologies to the maximum extent practicable, and a preference for treatment as a principle element.

10.1 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Although the groundwater within the contaminated plume at OU1, PSC 3 is not currently used as a source of drinking water for local residents, under future use scenarios it presents a potential threat to human health and the environment. The interim action remedy initiates protection of human health for the future users through mitigation of the spread of the plume until a final action is determined. The remedy also provides protection to the environment by providing treatment of the extracted groundwater prior to discharge to the City of Albany POTW.

10.2 COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARAR's)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 was passed by Congress and signed into law on December 11, 1980 (Public Law 96-5 10). This act was

intended to provide for "liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive waste disposal sites." The Superfund Amendments and Reauthorization Act (SARA), adopted on October 17, 1986 (Public Law 99499), did not substantially alter the original structure of CERCLA but provided extensive amendments to it. In particular, § 121 of CERCLA specifies that remedial actions for cleanup of hazardous substances must comply with requirements or standards under federal or more stringent state environmental laws which are applicable or relevant and appropriate to the hazardous substances or particular circumstances at a site. Inherent in the interpretation of applicable or relevant and appropriate requirements (ARARs) is the assumption that protection of human health and the environment is ensured.

The final cleanup levels for the groundwater are not addressed in this IROD because such goals are beyond the limited scope of this action. The final cleanup levels will be addressed by the final remedial action ROD for OU1.

The treatment system for the extracted groundwater will meet all Federal and State water quality standards. Additionally, the air stripper will be designed to meet the Federal and State air quality standards. The treated groundwater will meet the influent limitations of the City of Albany POTW.

A listing of ARARs (chemical-specific, location-specific, and action-specific) are provided in Table 5 of this document. Pursuant to 300.430(f)(l)(ii)(C) of the NCP an alternative which does not meet federal or state ARARs can be selected if the action is an interim measure that would become part of a final action which will attain ARARs.

Chemical-Speafic ARARs

The principal contaminants of concern in the off-site groundwater are Trichloroethene, Tetrachloroethene, 1,2-Dichloroethene, Carbon Tetrachloride, and Chloromethane. Therefore, available chemical-specific criteria that have been promulgated under federal and state law that are applicable to this response action are listed in Table 5. All contaminants of concern will be included in the list of compounds to be analyzed on a routine basis.

Location-Specific ARARs

Location-specific requirements "set restrictions upon the concentration of hazardous substances or the conduct of activities solely because they are in special locations" (53 Fed. Reg. 51394). Table 5 lists location-specific ARARs that might be pertinent to this remedial action.

Action-Specific ARARs

Performance, design, or other action-specific requirements set controls or restrictions on particular kinds of activities related to the management of hazardous waste (52 Fed. Reg. 32496). Selection of a particular remedial action at a site will invoke the appropriate action-specific ARARs that may specify particular performance standards or technologies, as well as specific environmental levels for discharged or residual chemicals. Federal and state regulations appear in Table 5.

10.3 COST EFFECTIVENESS

The interim action remedy employs a proven technology which affords overall effectiveness proportional to its costs such that the remedy represents reasonable value. This action will utilize a relatively inexpensive technology to initiate control of the source and mitigate the spread of the contaminated groundwater. This limited scale containment operation should

reduce the cost of the overall remediation at OU1 PSC 3 by retarding the migration of the high concentration portion of the plume.

10.4 UTILIZATION OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE

The objectives for this interim action are to stabilize the site by mitigating the spread of the groundwater plume. This action should provide protection of human health and the environment. However, it does not fully address the principle threats to human health and the environment posed by the plume at OU1, PSC 3. This is not the final action planned for the groundwater contamination. Subsequent actions will address fully the principle threats posed by the conditions at the site. Utilization of a permanent solution will be addressed in the final decision document for the site.

10.5 PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT

This interim action satisfies the statutory preference for treatment of the discharged effluent as a principle element of the containment system.

10.6 DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for Interim Remedial Action of the OU1, PSC 3 plume was released for public comment on July 12, 1994. The Proposed Plan identified Alternative 3 (listed as Alternative No. 2 in the Proposed Plan), extraction and treatment by air stripping, as the preferred alternative. No written or verbal comments were submitted during the public comment period. Therefore, it was determined that no significant changes to the remedy, as it was originally identified in the Proposed Plan, were necessary.

COMMUNITY RELATIONS RESPONSIVENESS SUMMARY

1.0 OVERVIEW

MCLB Albany along with SOUTHDIV, USEPA, and GEPD held a public meeting on July 26, 1994, at the Dougherty County Chamber of Commerce to discuss the Proposed Plan for the Interim Corrective Measure for PSC 3 and solicit comments and questions from the public. However, no citizens appeared. Accordingly, no questions or comments were received during the public meeting.

2.0 BACKGROUND ON COMMUNITY INVOLVEMENT

An active community relations program providing information and soliciting input has been conducted by MCLB Albany for Operable Unit One, PSC 3. Interviews of citizens on Base and in Albany were conducted in the spring of l990 to identify community concerns. No significant concerns that required focused response were identified. Most comments received were concerning the potential for contamination of water resources. However, those interviewed indicated that they place great trust in MCLB Albany and their efforts to rectify past waste disposal practices. In addition, the Base has formed a Technical Review Committee that includes members representing the City of Albany and Dougherty County. The local media has also been kept informed since MCLB Albany was placed on the NPL. Installation Restoration (IR) Program fact sheets have been prepared and made available at the Public Affairs Office at MCLB Albany. Documents concerning Operable Unit One, PSC 3 can be found in the Information Repository at the Dougherty County Public Library, and the Administrative Record at the MCLB Albany Environmental Branch office.

3.0 SUMMARY OF PUBLIC COMMENT AND AGENCY RESPONSE

3.1 PUBLIC MEETING

No comments or questions were received during the Public Meeting held on July 26, 1994.

3.2 PUBLIC COMMENT PERIOD

Comments and questions received during the public comment period that ran from July 12 to August 25, 1994 are summarized below.

3.2.1 Technical Comments and Questions

No technical comments and questions were received during the public comment period.

3.2.2 Other Comments and Questions

No other comments and questions were received during the public comment period.